

# PEB

## NEWSLETTER

### 3-98

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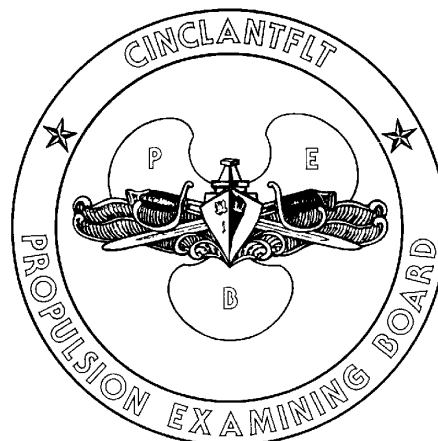
This is our annual "best practices" issue. The themes for the majority of articles are taken from things we have seen on "good ships." We hope they can be of some use to you.

Since our last Newsletter, all ships have finished the first round of the FERP and are four months into the second round. The early indications point toward spectacular results. At the end of the first round, less than 35% of the ships came out of CART II in a "Ready" status. The Statistics for the first few months of the second round have doubled to about a 70% "Ready" rate. The Fleet has conquered the FERP.

But... now that you have this process down, it's time for change. I'm sure you have all seen the CNO's NAVOP 009/98. What it all really means will probably come out next year. In the training and process sections of this Newsletter, there are some articles specifically written to COs concerning the changes (the articles are double asterisked in the contents column to the left).

Hopefully, the 1-99 Newsletter will have more details.

W. J. LAZ



Published triannually by the Senior Member of the Atlantic Fleet Propulsion Examining Board as a means to address changes, common problems, and often asked questions from staffs or ships concerning the engineering readiness and certification process. Points of contact for the submission of ideas or articles are: CDR Doug MacCrea, Managing Editor, and LCDR Richard Frey, Editor; both at 757-836-0121/0120 or DSN 836-0121/0120, Fax: 757-836-5319.

# INTRODUCTION

Welcome to the annual "best practices" issue of the PEB Newsletter. Our last "best practices" issue was PEB Newsletter 3-97. The ideas provided in that issue are still valid, and they deserve a few minutes of your time to go back and review them. If you do not have a copy of that issue (or any past issue), then you may contact me at the phone number listed on page 1 of this issue, and I will be more than happy to provide you with a copy.

In the meantime, I hope that you find some of the ideas in this issue to be helpful.

LCDR Richard Frey  
Editor

# TRAINING

## THE .8B IS CANCELED ... WHAT NOW?

By: CAPT W. J. Laz, LANTFLT PEB

The NAVOP 009/98 canceled the CLFINST 3540.8B, Engineering Department Training Program. We knew the .8B was on the table just like virtually every other Navy program, but we did not believe it would be canceled without a follow-up. This is less of a problem for us than it is for you – we can easily revert back to the original references that the .8B was derived from: Chapter 8 of the OPNAV SORM and the TYCOM Training Manuals (SFTM for most of you). However, this is an excessive admin burden on most of you with well-established programs.

PEB obviously supports the CNO's guidance and we will assess/certify whatever training program you present us. The bottom line is it must meet the requirements of the effective OPNAV and TYCOM instructions. However, to reduce the work required to establish a new program, we recommend as a "best practice" to make a ships' instruction with the .8B as an enclosure. The instruction should state what sections of the .8B you are using or not using; and also contain any ship specific engineering training processes or guidance. Additionally, if you desire, we'll be glad to review your product and provide feedback.

Naval History Quiz Question (you will date yourself if you get this right): What happened to the NGFS instruction GUNSMOKE after it was canceled? The .8B may become the next "Gunsmoke."

# TRAINING

## XO'S INVOLVEMENT IN THE DCTT

by LCDR F. K. Walker, Jr., LANTFLT PEB

Per SURFLANT instruction, the Executive Officer will act as the leader of the Damage Control Training Team. But how actively involved is your XO? Most ships have their own interpretation of what role the XO will play in the planning and execution of Main Space Fire Drills, and they vary from running every aspect of the DCTT themselves to only showing up for the briefs. The most successful ships, though, are ships whose XOs are active participants in drill planning and DCTT training and have a good working knowledge of their ship's engineering plant and written main space firefighting documents.

First and foremost, the XO is not just simply a figurehead for DCTT. As the DCTT Leader, the XO must find the time to be an active participant in every aspect of DCTT's day-to-day operation. The XO should attend DCTT training lectures (and give a few of them himself) and should ensure that all members are progressing in PQS accomplishment (yes, DCTT, including the XO, are required to be PQS qualified in the watchstations/positions they are observing, and should always be working on new PQS to allow for training team flexibility). If the XO is driving attendance at training and the accomplishment of PQS, it is safe to say that DCTT participation in these two areas will move higher up on the priority list!

Secondly, the XO must have more than a rudimentary knowledge of his or her engineering plant. XOs with engineering backgrounds obviously will have an advantage here, but there is no reason that non-engineers cannot get out and know their engineering plants just as well. The XO should know engineering equipment layout, be conversant in EOCC, know the shipwide impact of casualty control procedures such as electrical isolation, be familiar with space heat sources in relation to leak locations,

be well-versed in the locations of Halon and bilge sprinkling activation stations and other fixed and portable DC equipment, and demonstrate familiarity with how ETT is training watchstanders to respond to initial casualties that will cascade into the fire drill.

The Executive Officer should be familiar with written guidance on how to fight main space fires, to include NSTM Chapter 555 and your ship's Main Space Fire Doctrine. Additionally, he/she should be familiar with ship specific training procedures. Prior to the drill brief, the XO should know the ship's policies regarding simulations (for example, the pulling of fuses during electrical isolation and the location of those fuses), OBA light-off procedures, space reentry procedures in a Halon good or Halon bad scenario, and the support responsibilities of repair lockers other than Repair V. His/her demonstrated knowledge of these and other drill planning factors are indicative of his/her written policy know-how.

Finally, think about how involved the XO is in the makeup of the DCTT. Careful management of the ship's Battle Bill and knowledge of the crew's personal experience can go a long way in building a strong, versatile DCTT. The Command Master Chief, Master-at-Arms, Mess Specialist Chief, Supply Officer, and ship's Postal Clerk could be some of the most knowledgeable and proactive members of the team. Does the ship's training program require all E-7 and above to qualify as members of DCTT? Does the XO ensure the DCTT consists of the most experienced, relatively senior personnel on board (including even a few Combat Systems personnel)?

The most successful ships during LOA, CART II, ECERT, and MCA are those whose XO is actively involved in every aspect of the DCTT. When an XO cannot find the "time" to familiarize himself/herself with the engineering plant, attend training, be involved in the planning and writing of drill briefs, read NSTM Chapter 555 or the ship's Main Space Fire Doctrine, or drive the make-up of the DCTT, the ship's training organization and performance during assessments suffer.

## TRAINING

### DCTT BRIEF

By LT Jim Talbert, LANTFLT PEB

Recently during main space fire drill briefs, the PEB repeatedly finds the same questions being asked. An article in PEB Newsletter 3-97 entitled "DCTT BRIEF" addressed this matter. We would like to revisit this area and provide additional ideas and insights that could make your brief more thorough.

First, the information in the PEB Newsletter 3-97 article is still valid. If you do not have this article, you can contact our office and a copy will be provided.

Secondly, it is incumbent upon the ship to be the most critical reviewing authority when evaluating their own brief. This will increase the effectiveness of your firefighters and the ship's ability to combat a main space fire. This will also assist in training the sailors on the deckplates regarding the "why" behind each step required to extinguish a main space fire.

The following "best practices" are a continuation of the 3-97 article which could help your training and enhance your briefs:

- Brief the ship's policy for handling heat stress conditions during drills. This policy may include your "threshold of pain" (established ambient temperature) where DCTT will take action to alleviate heat stress conditions and the utilization of space ventilation to reduce this condition while still conducting realistic training (e.g., if necessary, have ETT turn ventilation on after the DCTT has a chance to verify electrical isolation and then turn it back off just prior to reentry. This should keep space temperatures at a safe level).
- Brief the imposition for disclosing the effectiveness of flushing fire hazards to the bilge.
- Brief the estimated space reentry time in a Halon bad scenario.
- Brief the DCA's probable thought process if mechanical isolation is not set in a Halon bad scenario.
- Brief your OBA change-out area location.

- Brief whether or not your AFFF station will be in recirc.
- Brief whether or not this will be a single hose or double hose attack. Know the probable decision process that the OSL will use to determine his/her actions.
- Brief how the main drainage system will be used.
- Know the self-simulations that you have trained your crew to follow.
- Know which of your personnel have dual responsibilities during main space fire drills (e.g., main space watchstanders that are also assigned to the initial attack team).
- Know what actions the DCTT will take with the in-space fire fighting equipment after the watchstanders have evacuated.

This is not an all-inclusive list, but an attempt to stimulate your review process. Remember, the ultimate goal is to have a capable, knowledgeable, and professional group of sailors who can save their own ship with minimal casualties.

## TRAINING

### SMOKE THAT REALLY STIMULATES

By LCDR Tony Fuller, LANTFLT PEB

All drill simulations, some more effectively than others, do just that- simulate. Providing stimuli to the watchstander's senses that as closely as possible approximates the same sensory input that would be experienced by a watchstander in an actual casualty is critical. This makes the smoke generator an indispensable tool for training teams throughout the fleet.

For ships with the luxury of having 2 smoke generators, the ability to leave them deployed in more than one space simultaneously delivers a powerful blow to drill pre-disclosure, not to mention the benefits of redundancy. The additional machine can prevent the frustration that occurs when your only smoke generator invariably "dies" on the same morning an assessment team arrives for a visit.

For ships with only one smoke generator on board, we have seen several "best practices" that keep the watch teams from guessing when the rabbit will pop out of the hat. One method is to place the smoke generator in plain sight in a decoy space and then stealthily relocate it in the affected space immediately prior to the commencement of the drill. To do this, the training team must visualize the location and movement of watchstanders in the events preceding the disclosure of smoke, and relocate the smoke generator at the time most likely not to be noticed.

We have also observed creative use of the smoke generator in conjunction with class "C" fires. Using flexible tubing to dispense the smoke, training teams are able to covertly position their machine, while directing smoke from over, under, behind and between switchboards, controllers and other electrical distribution components. This can have a dramatic effect in injecting realism into a drill. In addition to injecting realism, strategic use of smoke can significantly clarify in the watchstander's mind if a class "C" fire shows the potential for spread. Once electrical power has been isolated to the affected component, continued smoke generation, even if a strobe light or other commonly seen fire disclosure props have been removed, is a dead give away that there is still an active fire with potential for spread.

Augmenting the smoke generator with smells similar to that which would be encountered in the specific class of fire being disclosed, is the icing on the cake. Liquid smoke is widely used with great success. Other props, such as containers of burned insulation material are also frequently utilized. A key consideration should be a sufficiently strong odor, without having to place a smell prop directly under the nose of a watchstander.

Remember, realistic simulations and effective stimulation of the watchstanders is a direct result of your efforts, and with smoke, there is a lot of room for creativity.

## OPERATIONS

## **PROPULSION DYNAMIC RESPONSE ASSESSMENT**

By: CAPT W. J. Laz, LANTFLT PEB

In every PEB ECERT drill package, there are various maneuvering transients with the statement "conduct IAW PEB Newsletter 1-96." We have drifted away from the original intent of that Newsletter so now the article is being republished for clarity.

To use underway time more efficiently, flexes and full power demonstrations will only be done on selected ships for process validation and data collection. However, the Maneuvering Transient portion of each drill set will receive increased emphasis and observation. There are two specific required elements:

- During one transient period, an "Emergent" Back Full Bell will be ordered from the normal drill speed. This is not a crash back, it is a rapid backing bell conducted as the ship trains to answer an Emergency Back Full bell. If your doctrine cycles the EOT three times or passes the order over the 26MC, we want to see it.
- During one transient, an Ahead Flank XXX (Maximum rpm, not 90%) will be ordered by the OOD. This will be promptly answered until the RPM is reached or until a limiting plant parameter is reached. At that point, the Board will quickly tour the plant and take data. This event is not designed to be a slow build up to full power. It is designed to see how efficiently the plant can respond to the CO's desire to go really fast for a short period, e.g. to close a burning fishing vessel and render assistance. Steam ships will answer the bell with the boilers currently on-line, but light off additional auxiliaries as necessary. Gas Turbine and Diesel ships will be expected to come up to the "full power mode" in accordance with their EOSS.

## **OPERATIONS**

### **PULLING FUSES**

By LT Jim Talbert, LANTFLT PEB

Ref (a): NSTM Chapter 300, Rev. 4

During recent assessments, the PEB has observed ship's force personnel violating reference (a) concerning the pulling of fuses. Also, it has not been unusual to visit a ship that does not state their procedures to pull fuses for casualty control drills during their briefs. This omission usually stems from ship's force not being familiar with the reference or a lack of training down to deckplate maintenance personnel. These actions will obviously affect the assessment of the Electrical Safety Program, but more importantly, they are a safety violation! Our intention here is to provide feedback to the fleet in an area where complacency could be deadly.

Paragraph 300-2.5.4 of reference (a) is very straightforward. The pulling of energized fuses is not permitted unless it falls under one of the following categories:

1. Removing or replacing fuses in energized circuits is permitted if deenergizing the circuits to the line side fuse clips would require shutdown of other critical equipment.
2. Removing or replacing fuses in energized circuits is permitted if a distribution box cannot be deenergized by an upstream breaker without causing a disruption to other critical user equipment fed from the distribution box, and the circuit is in good working order.
3. Certain dead-front fuses may be removed or replaced while energized provided they meet the stipulations listed in reference (a).

Review NSTM Chapter 300 and insure you are training to those standards. Electrical Safety will continue to be one of the most challenging safety programs any shipboard organization must manage, but we should remember that safety is paramount and we owe that everyone.

## **MANAGEMENT**

### **LOQM BEST PRACTICES**

By LCDR Sam Overmyer, LANTFLT PEB

Your goal as the LOQM program manager for your ship should be to make it the most efficient management program possible. The theme of this PEB Newsletter is "best practices". Therefore, I would like to provide program

managers with some ideas which I have either seen used on the deck plates or have used myself for improving a LOQM program.

- Find a shipmate outside of the Engineering Department to review your program. An "SKC" used to be my most constructive critic. Too often, we engineers accept something not in accordance with the references as being satisfactory because "it has always been that way." When the SKC reviewed my program, he would question my methods or procedure, forcing me to go to the references and give him black and white answers. I learned a lot and corrected discrepancies which were not IAW....
- Have non-engineers observe sampling evolutions. When they ask questions like "Why do you do this" or "How does this operate," it gives your watchstanders and ETT an opportunity to explain their methods. The answers "It has always been that way" or "Because that is the way we do it" are not adequate. Having to explain the "how" and "why" reinforces watchstander's and ETT's level of knowledge.
- Have **complete** sample kits located in each space where samples are taken. More than one kit may be needed depending upon the size of the space. Too often while observing a lube oil sample evolution the time required for the watchstander to locate and/or obtain the necessary material for taking a sample is greater than 20 minutes. This is a significant waste of time whether the sample is being observed as an evolution or not.

If you have a practice or procedure that you use for improving your LOQM program, I would like to know about it. Please call me at: DSN 836-0537.

Editor's Note: LCDR Overmyer's first two "best practices" can be applied to any management program. Additionally, SFR 2-98 promulgated a new MRC for sampling 2000 series lube oil.

## MANAGEMENT

### **BEARING RECORDS**

By LCDR Richard Frey, LANTFLT PEB

Ref (a): NTSM Chapter 244

Recently, more and more ships are having difficulty managing an effective Bearing Records Program. From discussions with Program Managers and Engineer Officers, it is apparent that part of the problem is a lack of knowledge of program fundamentals. The following 3 step approach will go a long way in ensuring you have an effective Bearing Records Program.

- There have been several changes to reference (a) in recent years. So, the first step in this process is to ensure that your Tech Library has the current revision. The current revision to NSTM 244 is Revision 6.
- The next step is to thoroughly review Sections 2 and 3 of reference (a). These sections cover line shaft bearings and main propulsion thrust bearings.
- The last step is to give your program a critical, top to bottom review using reference (a) as the primary technical guidance.

The remainder of this article deals solely with line shaft bearings. Additional information on main propulsion thrust bearings is provided in the "Main Propulsion Thrust Bearings" article also included in this Newsletter. Problem areas observed by the PEB include:

- Ship's force does not know the installed clearance of each bearing. In many cases, a search of old bearing log records and material history files will result in finding the missing data. But if your search turns up empty handed, then paragraph 244-2.6.9 of reference (a) provides very specific guidance on what must be done.
- Ship's force does not have the appropriate data labeled on the individual bearing housing as required by paragraph 244-2.6.9.1.2 of reference (a).
- Some ships do not use the Bearing Log format (Figure 244-2-6) provided in reference (a). Other ships misinterpret the data which the log requires (e.g. installed clearance and depth constant). This is the log that must be used in your bearing records for each line shaft bearing when determining bearing clearances.

Table 244-2-3 of reference (a) provides a recommended maintenance schedule for line shaft bearings. However, a close review of the NSTM will disclose the following note:

NOTE: If installed, the Planned Maintenance System (PMS) Maintenance Requirement Cards (MRC) supersede all the scheduled maintenance requirements in Table 244-2-3 **except** the annual line shaft bearing wear measurement (para. 244-2.6.1).

The important part of that note is that ships shall take bearing clearance readings annually, regardless of PMS periodicity. This annual measurement will yield the bearing clearance for comparison with design and replacement criteria. Bearing replacement clearances are provided in either the specific equipment technical manual or in Table 244-2-5 of reference (a). The majority of ships in the Fleet have the 2441/R-2 MRC in their PMS load out to measure bearing wear. If a ship has the installed clearance and depth constant, uses the Bearing Log provided in reference (a), and measures the bearing wear in accordance with the applicable PMS card, then each bearing's clearance can be determined.

## MANAGEMENT

### MAIN PROPULSION THRUST BEARINGS

By: LCDR Richard Frey, LANTFLT PEB

Ref (a): NSTM Chapter 244, Rev. 6

One goal of the Smart Ship Initiative was to reduce the amount of maintenance that was required to be performed by ship's force personnel. As a result of this effort, numerous PMS checks were deleted from the ship's PMS load out, including the check to measure the main thrust bearing clearance. In the end, this PMS check has been deleted for several ship classes.

Table 244-3-2 of reference (a) is the recommended maintenance schedule for main propulsion thrust bearings, and it requires wear clearances to be measured semi-annually. However, a note in paragraph 244-3.8.2 of reference (a) states, "If installed, the Planned Maintenance System (PMS) Maintenance

Requirement Cards (MRC) supersede the recommended maintenance schedule (Table 244-3-2)."

The PEB is currently trying to resolve this disparity with NAVSEA. But until it is resolved, it must be understood that the lack of PMS does not supersede the requirements of the NSTM. Therefore, ship's that have PMS to measure the main propulsion thrust bearing clearance shall continue to schedule this maintenance in accordance with the MRC's periodicity. Ships that have had this PMS deleted from their load out shall continue to perform this maintenance in accordance with the schedule outlined in Table 244-3-2.

## FIREFIGHTING

### FIREFIGHTING TRAINING

By: LCDR Richard Frey, LANTFLT PEB

In the last edition of the PEB Newsletter, CAPT Miller wrote an excellent article about training your fire parties to combat a class "B" fire. That article was geared more towards ships in the early stages of the FERP process although it applies to all ships. Along with the information provided in that article, I offer the following "best practices."

NSTM 555 and the standard Main Space Fire Doctrine provide the tools in which to train your ship how to fight a main space fire. However, the Main Space Fire Doctrine must be tailored to each individual ship. When a class "B" fire occurs, there is no one there to turn to to ask questions. You need to know your ship and have determined the best way to fight your ship before the need to occurs. Then make sure your doctrine is written that way. For the Engineer Officers and DCAs out there (with the exception of PRECOM Units), when you reported aboard, the Main Space Fire Doctrine was already tailored to your ship. However, could it be improved? Is there a better way to fight the fire, to access the space? Now is the time to review your doctrine to ensure you have a recipe for success. What we look for in a Main Space Fire Doctrine is that there has been a logical thought process and decision making process behind the way you have trained your crew to fight the fire. Once you have a well thought out doctrine, then it is time to begin training the crew, which takes

us back to CAPT Miller's article in the last PEB Newsletter.

After the crew has become relatively proficient and are well trained in the basics of combating a class "B" fire, you may think that the battle is over. However, you cannot allow yourself or your shipmates to think that the fire will behave the way it did in every drill you have run. Now it is time to start varying the scenarios. This will serve two purposes. First, it will break up the monotony for both the crew and DCTT of running the same drill over and over. Second, and more importantly, it will make the fire party evaluate the situation, think, and make decisions. You do not have to change the entire scenario all at once. Just change one or two things such as hot spots, hangfires, ruptured hose, or OBA casualties. A very effective way of training the fire party is to have DCTT prepared to disclose symptoms based upon watchstanders' actions. For instance, if a smoke or fire boundary is not set properly, then spread the smoke/fire and force the fire party to take action. The fire party will quickly learn from their mistakes. After the drill is over, talk with the fire party or just those individuals of the fire party that were affected by the changes in the drill about why they made the decisions they did, and then offer them feedback regarding how they could have done things differently or better. By challenging the fire party to think and make decisions, they will be less surprised and more prepared for a class "B" fire if the unthinkable ever occurs.

## **FIREFIGHTING**

### **SINGLE HOSE vs. DOUBLE HOSE ENTRY**

By: LCDR Richard Frey, LANTFLT PEB

When accessing the space during a main space fire, will the fire party use a single hose or double hose entry? As mentioned in the above article, each ship needs to decide the best way to fight their ship and then write their Main Space Fire Doctrine accordingly. Here are some of the considerations that must be taken into account when deciding whether to use a single or double hose entry.

Halon effectiveness:

- If Halon was good, then you may only need one hose team to enter the space, verify that the fire is out and overhaul of the space.
- If Halon was bad, then you need to consider how long the fire has been burning. A fire that has been burning for 20-30 minutes may have the entire space engulfed in flames.
- You must also consider size and equipment lay out of the affected space whether Halon was good or bad. If the hose team runs into problems (ie: fire reflashes or fire spreads and traps the fire party's exit in a large machinery space), it may take a long time for the second hose team to get to the fire.

Command and Control:

- It is easier for a Team Leader to control a single hose team vice coordinating two hose teams.
- Using two hose teams, comms could be easier because there are more hosehandlers available to pass information.
- Using two hose teams, comms could be difficult with more hosehandlers available to misunderstand communications and to pass incorrect information.

Other considerations:

- In a small space, two hose teams could be crowded which could lead to tangled hoses or hamper space evacuation if the fire became out of control after re-entry.
- Using two hose teams requires twice as many OBA canisters to be lit off as well as twice as many reliefs that must be available.

The bottom line is that each ship must take into consideration these, as well as numerous other conditions, when determining the best way to combat a class "B" fire.

## **FIREFIGHTING**

### **DO YOUR SMOKE BOUNDARIES PASS THE SMOKE TIGHT TEST?**

By LT T. R. Weber, LANTFLT PEB

NSTM 555 states that "smoke boundaries are set to contain smoke." That's a no brainer. But do your smoke boundaries stand up to the test? Most ships would like to think so, but the truth of the matter is that most smoke boundaries are not 100% leak tight. If the space in question is an unmanned space, then a little

smoke intrusion can probably be tolerated, but if the space is Main Control, CCS or DCC, any smoke is too much smoke. One of the worst scenarios is to have your command and control centers "smoked out" prematurely during the early stages of a fire. Having to evacuate such nerve centers disrupts firefighting efforts and could cause an otherwise "routine" fire to get out of control. A simple method for testing the smoke integrity of your critically manned spaces is to set up your smoke generators in adjoining spaces and smoke the heck out of those spaces, ensuring ventilation is configured as it would be during a fire. Observe the smoke integrity of the manned space being evaluated, paying particular attention to cable way bulkhead penetrations, stuffing tubes, ventilation access panels, and of course doors and hatches. You can even do this test in conjunction with an inport drill, making the most of this extra effort. Your "test" might pay off sometime in the future.

## FIREFIGHTING

### THE CLASS "C" FIRE DRILL CHALLENGE

By LCDR J. P. Gompper, LANTFLT PEB

Ref: (a) NSTM Chapter 555, Vol. 1 & 2, Rev. 4

One of the most persistent points of confusion encountered on assessments is what is expected during a class "C" fire drill. The recent revision of reference (a) changed the requirements for fighting and reporting class "C" fires. The most significant change was the removal of any requirement to immediately open every single piece of electrical equipment in every situation. Opening of burned or damaged electrical equipment should now only be accomplished after a proper deranged equipment procedure has been followed **or** if the fire continues to burn after electrical isolation is complete and threatens to spread to other areas.

The "best practices" for training under the new revision incorporate a decision making process into the scenario. Ships that vary the occurrence of spreading and not spreading "C" fires encourage the individual watchstanders to make an informed decision on whether or not to open the affected equipment or wait until the equipment is tagged out and the deranged equipment checklist has been completed. Some

of the more effective impositions of spreading fires have included expanding red flashlight beams indicating an active "hot spot" or smoke and red rags on charred cabling indicating fire spreading up through the cable insulation. Ships should not limit themselves to any particular imposition. Creative and different impositions are encouraged to stimulate the watch team to make that critical decision based upon the physical evidence unique to that particular situation.

Editor's Note: This article can also relate back to the "Smoke That Really Stimulates" article.

## FIREFIGHTING

### LIGHTS ON versus LIGHTS OFF

By: LCDR Richard Frey, LANTFLT PEB

The PEB often sees ships that train the crew by imposing drills the same way each time. There are no variations in their scenarios. As discussed in previous articles, this does not stimulate fire party personnel to think. Instead, the fire party often grows bored during drills and simply goes through the motions until they hear the XO's voice on the 1MC saying, "Secure from Main Space Fire Drill." This problem applies to the ETT as well as the DCTT, and it is dangerous! One variation is to train the fire party to access the space in both a lights on and lights off scenario. However, the real training value comes by making the On Scene Leader (OSL) make the decision to either leave lights on or off vice always training the same way. First, the OSL must determine the likelihood of damage to the electrical lighting circuits in both a Halon good and Halon bad scenario. Most likely, lighting circuits will be severely damaged in a Halon bad scenario, but this may not be true in a Halon good scenario. In order to drive the OSL into making the decision, DCTT can impose props that indicate electrical damage. For instance, a strobe light attached to a lighting fixture inside the affected space will usually drive the OSL to order lighting secured. This method can be an excellent training tool provided it is not used in every drill.

# MATERIAL

## **MATERIAL CHECKS MADE EASY**

By LCDR Carl Weicksel, LANTFLT PEB

Ref: (a) CINCLANTFLT/PACFLTINST 3540.9

Keeping with the theme of “best practices” for this issue of the PEB Newsletter, I would like to expel some myths and share some tips on how to successfully orchestrate and demonstrate material checks. **These are recommendations; not requirements.**

- First, supervisory personnel should become thoroughly familiar with the material checks outlined in Chapter 3 of reference (a). Demonstration procedures for each material check should be extracted from EOSS, technical manuals, or PMS. If there is no specific documented procedure, a ship's procedure must be developed and approved by the chain of command.
- If the procedure you have chosen to use while conducting/demonstrating a check instructs the watchstander to perform other tasks, the Space Assessor may expect to see the entire procedure. In order to demonstrate only the check requested, prepare a cover sheet detailing which steps of the referenced procedure are to be accomplished. Ensure the cover sheet is reviewed and approved by the chain of command.
- Run through several “dress rehearsals” (3 seems to be the magic number). The rehearsals are not for PEB's benefit. They are of training value to the engineers, and it builds confidence. Confidence is a key for effective watch teams. Have senior personnel from outside the Engineering Department observe the checks; encourage them to ask questions. You'll find this promotes confidence in your watchstanders and prepares material check personnel to demonstrate checks for the PEB.
- Test each procedure for effectiveness. Ensure more than one person is proficient at conducting each material check.
- Obtain enough test equipment (comparators, pressure testers, speed/temp simulators, UV guns, strobotachs, etc.) to simultaneously perform the same check in different spaces.
- When using a pressure tester or comparator, ensure installed instrumentation readings match the readings of the test equipment.
- Reference (a), Chapter 3, Tab A establishes the list of standard equipment for each class of ship. Use this in orchestrating material checks to ensure standard equipment is achieved as soon as possible. It is to your benefit to complete generator and associated support equipment first.
- Several days prior to CART II, the PEB Project Officer will forward the list of material checks to the ship that the PEB desires to observe. This list is a representative list of checks and additional checks may be added to, or deleted from, the list once the assessment begins. Review them and ensure your procedures accomplish the intent of the checks. If you are not sure what the PEB means, then call your Project Officer and ask.
- The material checks the PEB will want to see during CART II will be an abbreviated list of the checks outlined in reference (a). The intent of our material list is to ensure the ship meets standard equipment. Once again, become familiar with the standard equipment list in reference (a). Not only is it essential in assisting you in orchestrating material checks, it is a valuable tool in prioritizing repairs when required.
- The material list provided by the PEB will list after each material check, a “X” (which means the check requires demonstration by space personnel) or an “O” (which means the check requires observation by the Space Assessor, but does not require a formal demonstration procedure).
- Please note that PEB Space Assessors have to observe all general damage control equipment checks. Ensure all hydro dates are readily visible on AFFF and fire hoses and PMS accomplishment dates are legible on PKP and CO2 bottles.

- Establish a material check chain of command whose responsibilities are well defined. At a minimum, the team should be composed of the Engineer Officer, an EOOW, and a Material Check Coordinator. Each main propulsion and auxiliary space should employ a Space Supervisor, an escort, material check demonstrators, and a material discrepancy runner. The Engineer Officer should strive to stay focused on the “big picture” and not become overwhelmed with minor details.
- Develop an accurate material check tracking system. Designate someone (other than the EOOW) to be the Material Check Coordinator. A chart listing all the checks should be utilized and updated with the status of each check. I suggest this chart and the repair organization be maintained in a space other than the main control station. Having the EOOW and Material Check Coordinator located in the same space seems to generate confusion and stress.
- Establish a Tiger Team that includes personnel who can perform a wide range of tasks such as flange shield replacement, lamp replacement, lock wiring, and obtaining repair parts out of stock.
- Keep conversations via amplified circuits to a minimum.
- Provide knowledgeable escorts for Space Assessors. Instruct them to ask the Space Assessors questions concerning the outcome of material checks or the severity/consequences of discrepancies found.
- Keep the Space Assessor busy! One tactic a ship employed in orchestrating material checks was to use distance to keep the Assessor occupied. For example, after observing eductor operation, it was off to the 03 level to observe blow-in door operation then back to the bilges to observe lube oil pump logics.
- Ensure personnel have the expertise to perform all checks assigned to their space, including ABT and eductor operation.
- Always have a check ready to go. If the next check takes some time to set up, use that

time to complete some of the less involved checks like lamp and alarm tests.

- If a check that is being demonstrated is not going well or a material discrepancy arises, the demonstrator should not attempt to make numerous re-attempts to demonstrate the check or make repairs to the equipment - move on to the next check and come back later. The Space Assessor will want to complete all or most assigned material checks before witnessing re-checks.
- Don't wait for the PEB Material Discrepancy List to ascertain equipment status or material discrepancies. Utilize runners who can carry material discrepancies from the space to the Material Check Coordinator. A lot of ships use non-engineering personnel who are aggressively completing ESWS quals to perform these tasks.
- Don't wait to affect repairs. However, ensure repair work does not interfere with the other material checks.
- If repairs are required to equipment, ensure they are performed correctly. On numerous occasions, the assessment of Tag-Out, Electrical Safety and/or Quality Assurance programs have been adversely affected by aggressive technicians who overlooked the requirements of those programs in order to perform repairs.
- The icing on the cake: Ensure space personnel are wearing clean coveralls, blackened shoes and carry rags and flash lights. Remember, the material condition of the ship is a direct reflection of the professional attitude of the crew.

I hope this information will aid you in preparing for future assessments. If you have questions or comments, feel free to call.

## MATERIAL

### ICAS

By LT T. R. Weber, LANTFLT PEB

Ref: (a) CINCLANTFLTINST 3540.9

Approximately one in five ICAS ships that we

visit either has a “problem” with ICAS or simply does not use it at all, preferring to stick with manual logs. Whether you choose to stay “manual” or actively use ICAS is up to you and your Command. However, you must still meet the requirements for Operating Records found in reference (a), regardless of your method of log keeping. If you have ICAS and are choosing not to take advantage of the system, it is recommended that you reconsider that decision. Most ships that are using the system are doing so successfully.

Finally, if you are experiencing operating problems with ICAS, desire training for your system manager, or simply have questions regarding how to better improve system performance, you can contact the following individuals at FTSCCLANT:

Brian Finley, FTSCCLANT Norfolk, COMM 757-445-4289

Roger Baldwin, FTSCCLANT Det Mayport, COMM 904-270-7214 (x119)

Editor's Note: Mr. Finley is also responsible for ships homeported in Ingleside, Texas. Mr. Baldwin is responsible for ships homeported in Pascagoula, Mississippi.

## THE PROCESS

### CO QUESTIONNAIRES

By: CAPT W. J. Laz, LANTFLT PEB

We always encourage each ship to provide feedback on the process, and this feed back has been valuable to us in our goal of continuous process improvement. During a recent IDTC workload reduction discussion, a flag officer said, “CO’s seem to hate the new system – the FERP is worse than the old OPPE.” I told him that was incorrect and I had the documentation to prove it. His response was, “You don’t think they are telling you the truth, do you?” **Yes I did, and yes I do!** I hope I am right, because I use these critiques liberally and this is the first time their validity has ever been questioned. Related to this, both the DCINC and I are reviewing each CO critique in preparation for next years “zero-based review” on engineering certifications. **You** really do have an input.